

Application Serial No. 10/694,125
Amendment dated August 6, 2004
Reply to Office Action of May 7, 2004

AMENDMENTS TO THE CLAIMS

1. (Canceled)
2. (Currently Amended) The capacitor of claim 9 wherein the at least one composite portion comprises glass sintered with the ceramic dielectric portion.
3. (Currently Amended) The capacitor of claim 9 wherein the at least one composite portion comprises a matrix of the ceramic, and particles of the conductive metal are dispersed in the matrix, and wherein the conductive metal particles comprise about 40-90% of the composite portion.
- 4-5. (Canceled)
6. (Currently Amended) ~~The capacitor of claim 9 further comprising~~ A capacitor comprising an essentially monolithic structure of at least one composite portion sintered with a ceramic dielectric portion, wherein the at least one composite portion includes a ceramic and a conductive metal in an amount sufficient to render the at least one composite portion conductive, and wherein the ceramic dielectric portion is horizontally disposed with the at least one composite portion sintered to a bottom portion thereof, the at least one composite portion adapted to be mounted onto a pc board, and the capacitor further comprising a metallization on

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a top portion of the ceramic dielectric portion, the metallization adapted to be wire bonded to a pc board, and a buried horizontally-oriented metallization in the dielectric portion and having at least one conductive metal-filled via extending from the buried metallization to the at least one composite portion.

7-8. (Canceled)

9. (Currently Amended) A capacitor comprising an essentially monolithic structure of at least one composite portion ~~sintered~~ cosintered with a ceramic dielectric portion, wherein the at least one composite portion includes a ceramic and a conductive metal in an amount sufficient to render the at least one composite portion conductive, and wherein the ceramic dielectric portion is horizontally disposed with the at least one composite portion ~~sintered~~ cosintered to a bottom portion thereof, the at least one composite portion adapted to be mounted onto a pc board, and the capacitor further comprising a metallization on a top portion of the ceramic dielectric portion, the metallization adapted to be wire bonded to a pc board.

10-11. (Canceled)

12. (Previously Presented) The capacitor of claim 23 wherein the composite end portions comprise a matrix of the ceramic, and particles of the conductive metal are dispersed in the

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matrix, and wherein the conductive metal particles comprise about 40-90% of the composite end portions.

13-22. (Canceled)

23. (Previously Presented) A surface mountable, monolithic capacitor comprising:

a center vertically-oriented ceramic dielectric portion having opposed vertical coplanar surfaces;

a pair of composite electrode end portions comprising a ceramic and a conductive metal in an amount sufficient to render the composite conductive, each end portion having an internal vertical face and a plurality of external faces, each internal vertical face co-sintered to a respective opposed vertical coplanar surface of the center ceramic dielectric portion so as to have essentially no boundary therebetween, whereby the conductive end portions serve as electrodes for the capacitor and are directly mountable on metallic surface traces on a printed circuit board.

24. (Previously Presented) The capacitor of claim 23 wherein the composite end portions adjacent the internal vertical faces further comprise glass.

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25. (Original) The capacitor of claim 23 wherein the conductive metal comprises about 90% of the composite end portions.

26. (Previously Presented) The capacitor of claim 23 further comprising at least one buried vertically-oriented metallization in the center ceramic dielectric portion intermediate the opposed coplanar surfaces, and having at least one metal-filled via extending from the buried metallization to one of the composite end portions.

27-37. (Canceled)

38. (Previously Presented) The capacitor of claim 23 wherein the composite end portions comprise glass sintered with the ceramic dielectric portion.

39. (Previously Presented) The capacitor of claim 23 wherein the ceramic dielectric portion is free of internal metal electrodes.

40. (Previously Presented) A surface mountable, monolithic capacitor comprising:
a center horizontally-oriented ceramic dielectric portion having opposed horizontal coplanar surfaces;

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top and bottom composite electrode portions comprising a ceramic and a conductive metal in an amount sufficient to render the composite conductive, each composite electrode portion having an internal horizontal face and a plurality of external faces, each internal horizontal face co-sintered to a respective opposed horizontal coplanar surface of the center ceramic dielectric portion so as to have essentially no boundary therebetween, whereby the conductive electrode portions serve as electrodes for the capacitor and the bottom electrode portion is directly mountable on a metallic surface trace on a printed circuit board.

41. (Previously Presented) The capacitor of claim 40 wherein the ceramic dielectric portion is free of internal metal electrodes.

42. (Previously Presented) The capacitor of claim 40 wherein the composite electrode portions comprise glass sintered with the ceramic dielectric portion.

43. (Previously Presented) The capacitor of claim 40 wherein the composite electrode portions comprise a matrix of the ceramic, and particles of the conductive metal are dispersed in the matrix, and wherein the conductive metal particles comprise about 40-90% of the composite electrode portions.

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44. (Previously Presented) The capacitor of claim 40 wherein the composite end portions adjacent the internal horizontal faces further comprise glass.

45. (Previously Presented) The capacitor of claim 40 wherein the conductive metal comprises about 90% of the composite end portions.

46. (Previously Presented) The capacitor of claim 9 wherein the ceramic dielectric portion is free of internal metal electrodes.

47-57. (Canceled)

58. (New) The capacitor of claim 6 wherein the at least one composite portion comprises glass sintered with the ceramic dielectric portion.

59. (New) The capacitor of claim 6 wherein the at least one composite portion comprises a matrix of the ceramic, and particles of the conductive metal are dispersed in the matrix, and wherein the conductive metal particles comprise about 40-90% of the composite portion.

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60. (New) The capacitor of claim 9 wherein the at least one composite portion has a thickness of about 10-20 mil and the ceramic dielectric portion has a thickness of about 2-5 mil.